

WHAT IS CLAIMED IS:

1. An improved dynamic bandwidth allocation method in a reservation network comprising one or more users and at least one headend, wherein one or more of said users request respective allocations of bandwidth based on a state parameter of said requesting user, said headend dynamically allocating bandwidth to one or more of said users in response to said respective requests, said headend responding to each of said requesting users with said allocated bandwidth, said response being delayed for a period of time which is a function of a reservation latency δ of said reservation system, said improvement comprising the step of scaling said state-based request by a factor of $1/\delta$.
2. The method of claim 1 wherein said state based request equals the size of a queue q_i of a user i and wherein said request for bandwidth by user i at time t equals q_i^t/δ .
3. The method of claim 1 wherein said reservation network includes memory available to a user i sufficient to store historical information about said state parameter of user i , the improvement further comprising the step of each user requesting at a time instant t an amount of bandwidth equal to the greater value as between the number of arrivals of cells at said user's queue, q_i , at said time instant t , (λ_i^t) and q_i^t/δ .